

Claims

1. A liquid dispensing apparatus comprising a bottle,
 a bottle neck liner and a flat-nosed syringe having a
 5 plunger and a barrel, the barrel terminating at its distal
 end in a generally flat face having a diameter
 corresponding to the diameter of the syringe barrel and
 being perpendicular to the longitudinal axis of the
 barrel, the bottle having a bottle neck in which is
 10 located the bottle neck liner such that liquid cannot flow
 between the bottle neck liner and the bottle neck, the
 bottle neck liner comprising a sleeve comprising an inward
 step located within the bottle neck, an aperture being
 defined inwardly of the inward step, wherein the sleeve is
 15 dimensioned such that when the syringe barrel is inserted
 into the sleeve the inward step prevents the syringe
 barrel from protruding past the step and liquid cannot
 flow between the sleeve and the barrel, but can leave the
 bottle only via the aperture and thence the syringe.

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2. A liquid dispensing apparatus comprising a bottle,
 a bottle neck liner and a flat-nosed syringe having a
 plunger and a barrel, the bottle having a bottle neck in
 which is located the bottle neck liner such that liquid
 25 cannot flow between the bottle neck liner and the bottle
 neck, the bottle neck liner comprising a sleeve defining a
 bore having an inward step located within the bottle neck,
 an aperture being defined inwardly of the inward step,
 wherein the sleeve is dimensioned such that when the
 30 syringe barrel is inserted into the sleeve, the bore
 sealingly accommodates the distal end region of the
 syringe barrel with the distal end region in abutment with
 the inward step, wherein no part of the distal end extends

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beyond the bore, and wherein liquid cannot flow between the sleeve and the barrel, but can leave the bottle only via the aperture and thence the syringe.

5 3. A liquid dispensing apparatus as claimed in claim 1 or 2, wherein the aperture is pre-formed and permanently open.

4. A liquid dispensing apparatus as claimed in any
10 preceding claim, wherein the bottle neck liner has a cylindrical body to engage sealingly inside the bottle neck, wherein the sleeve is spaced from the body, wherein the body and sleeve are connected together by a web of material only at one end of the body and of the sleeve;
15 and wherein at the other end of the sleeve the inward step is located.

5. A liquid dispensing apparatus as claimed in any preceding claim, wherein the sleeve comprises a resilient
20 material.

6. A liquid dispensing apparatus as claimed in any preceding claim, wherein the inward step is a substantially annular inward step.
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7. A liquid dispensing apparatus as claimed in any preceding claim, wherein the inward step is located in the region of one end of the sleeve.

30 8. A liquid dispensing apparatus as claimed in any preceding claim, wherein the liner comprises an outwardly protruding flange extending around at least a portion of

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21

an end of the liner and abutting the rim of the bottle neck into which the liner is inserted.

9. A liquid dispensing apparatus as claimed in any preceding claim, wherein the bottle contains liquid medicine.

10. A liquid dispensing apparatus as claimed in any preceding claim, wherein the bottle includes a closure member which can be secured over the bottle neck.

11. A method of dispensing liquid from liquid dispensing apparatus as claimed in any preceding claim, the method comprising the steps of:

(a) inserting the barrel of the syringe into the bottle neck of the bottle until the distal end of the barrel abuts the inward step;

(b) positioning the bottle such that liquid within the bottle contacts the aperture;

(c) effecting outward movement of a plunger of the syringe to withdraw liquid from the bottle into the barrel;

(d) positioning the bottle such that liquid within the bottle no longer contacts the aperture;

(e) removing the barrel from the bottle neck; and

(f) effecting inward movement of the syringe plunger to dispense liquid from the syringe barrel.

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22

12. In combination, a flat-nosed syringe and a bottle neck liner, able to produce, with a bottle, a liquid dispensing apparatus as claimed in any of claims 1 to 10.

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